

Enbridge Line 5 Issues Within the Bad River Reservation



~A Brief Overview Provided by Mashkiiziibii Natural Resources Department~

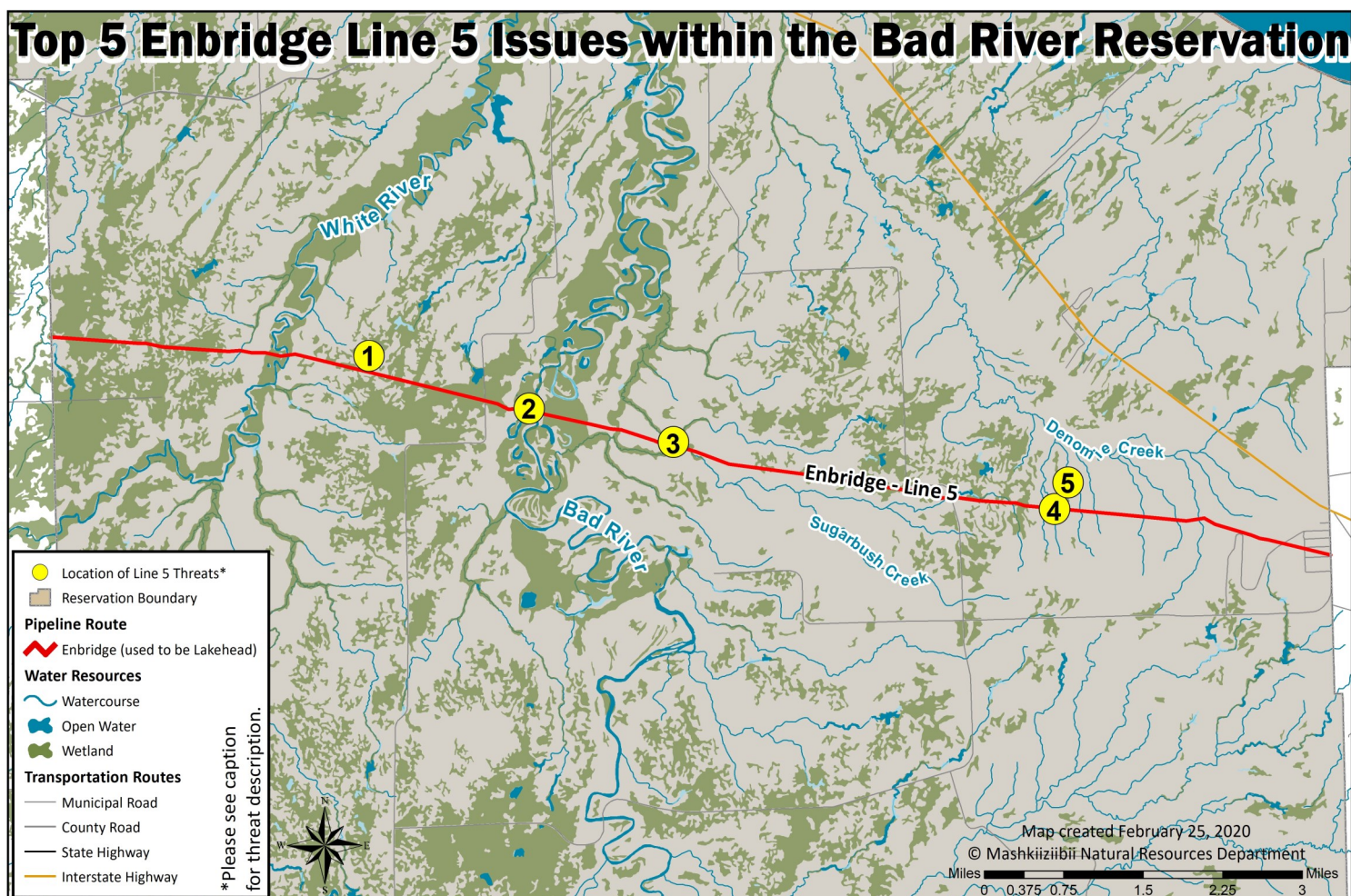
In 1953, Lakehead Pipeline Company installed a pipeline to transport crude oil across the Bad River Reservation and in adjacent areas. This pipeline is now called Enbridge Line 5. In January 2017, the Tribal Council passed a resolution to state that the Tribe would not be renewing its interests in the rights of way across the Bad River Reservation and to direct the removal of the Enbridge Line 5 pipeline from the entire Bad River Watershed. In October 2019, the Tribal Council passed another resolution reiterating their 2017 decision.

Over the last couple of years, the Mashkiiziibii Natural Resources Department (MNRD) has increased its efforts to better understand the impacts and threats of Enbridge Line 5 pipeline on our waters, wildlife, fisheries, plants, and other natural resources. This special newsletter edition highlights five areas across the Reservation where MNRD has the most concerns about Enbridge Line 5 impacts and threats. These five areas are not the only areas on the Reservation that are impacted and/or threatened by Line 5.

Link to view Resolutions:

http://www.badriver-nsn.gov/wp-content/uploads/2019/11/Pipeline_Resolution_Line5_Removal_2017.pdf

http://www.badriver-nsn.gov/wp-content/uploads/2020/02/NRD_EnbridgeRemoval_Resolution_201910.pdf



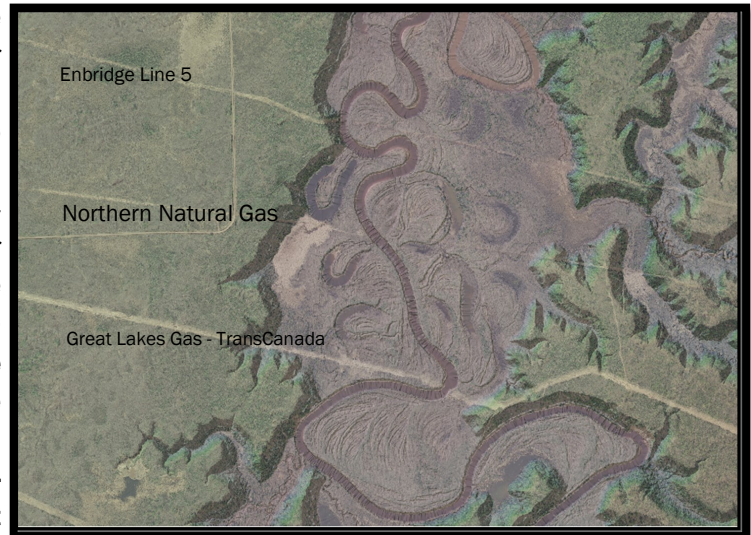
Mashkiiziibii Natural Resources Department (MNRD) has responded to numerous threats posed by Enbridge's Line 5 pipeline. Additional information on these threats is summarized within this brochure and includes: 1) Site where Restoration of 2nd Helicopter Incident is needed; 2) Bad River Meander Erosion; 3) Two sites where Enbridge completed anomaly digs in 2019 and where MNRD is investigating unnatural odor; 4) Pipeline Exposure in Denomie Creek Tributary; 5) Bioremediation of Enbridge Helicopter Crash Site

Bad River Meander (#2)

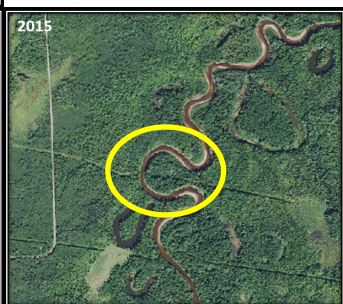
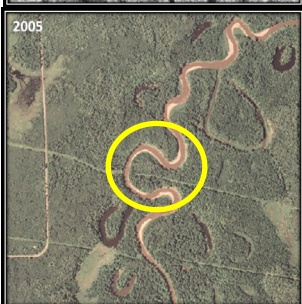
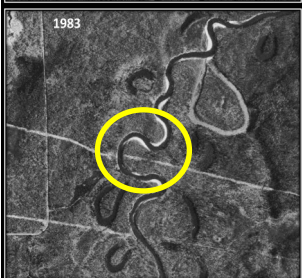
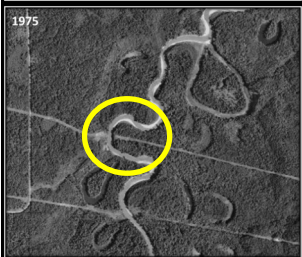
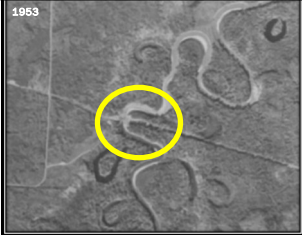
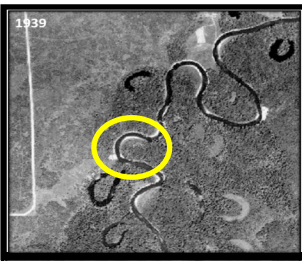
Mashkii-ziibi (medicine swamp river), often called the Bad River, is designated an Outstanding Tribal Resource Water and holds significant cultural importance to the Bad River Band. Healthy, ecologically intact rivers, like the Bad River, meander and change naturally over time. (See photos to left) Upstream of Lake Superior 15.8 miles, where Line 5 crosses the Bad River, the river is working to carve a new river channel through the neck of the meander (pictured to the right). This is a naturally occurring process that is important for the ecological integrity of a healthy river, and the resulting oxbow lakes are seen throughout the Bad River floodplain. One of the ecological benefits is flood water storage to protect downstream communities. Increased erosion on the meander neck is natural and good for the river, however the presence of Line 5 as it cuts through the meander neck is not. **Thus, Line 5 at this location puts the health of the river, wildlife, Bad River Sloughs, Bad River community, and Lake Superior at risk for the catastrophic and irreparable harm from an oil spill if it was to be exposed through these natural processes.**



The Bad River Meander is shown completely inundated with water during a spring flood event. The Line 5 corridor is visible running through the middle of the meander where vegetation has been cleared. (Bates, 4/24/19)



2015 topography image showing how Mashkiiziibii meanders and oxbow lakes form over time in the area where one oil pipeline (Enbridge) & natural gas pipelines operated by 2 companies intersect the river.



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Threats & Challenges website



Pipeline Exposure in Denomie Creek Tributary (#4)

In August 2019, MNRD staff discovered a forty-nine foot section of Line 5 pipeline was exposed due to erosion of an intermittent tributary/wetland flowing down a steep slope (often referred to as “Slope 18”). Of the exposed pipe, forty feet were unsupported due to erosion and continued water movement which undercut the pipeline. The exposure site is within an intermittent tributary with wetland fringe and is just upslope from a Denomie Creek Tributary which flows north and passes through the heart of the New Odanah Community before flowing into Honest John Lake and the Bad River Sloughs, then ultimately Lake Superior.

Imminent threats like this show that the apprehension the Bad River Tribal Council felt about Line 5 when they passed the 2017 resolution to remove the pipeline was justified. In the meantime, the MNRD has installed multiple cameras in this location in order to remotely monitor erosion rates especially during spring snowmelt and flood events.

Additionally, MNRD is consulting with other water resource professionals to identify strategies for temporarily stabilizing this area during the time being while oil still continues to flow through Line 5.

In response to the imminent health and safety threat posed by the pipeline exposure, “Phase 1” emergency work was completed by Enbridge in September 2019 and consisted of the company placing sandbags under 6.5 ft of the exposed pipeline to provide additional support. “Phase 2” work was started in February 2020 and consists of the company covering the exposed section of pipeline, redirecting and reinforcing the intermittent tributary channel that runs through the exposure site. The Tribe ap-



Enbridge Line 5 pipeline exposure within the Denomie Creek subwatershed. The photo was taken after vegetation had been cleared from the area and sandbags were temporarily installed under the free-spanning pipeline. (MNRD, 10/31/19)



This photo shows the intermittent watercourse in May 2019 prior to the large-scale erosion on Slope 18 that exposed the pipeline. The erosion that was already fairly severe at this point can be seen in the foreground of this photo. (MNRD, 5/7/19)

Pipeline Exposure in Denomie Creek Tributary continued (#4)

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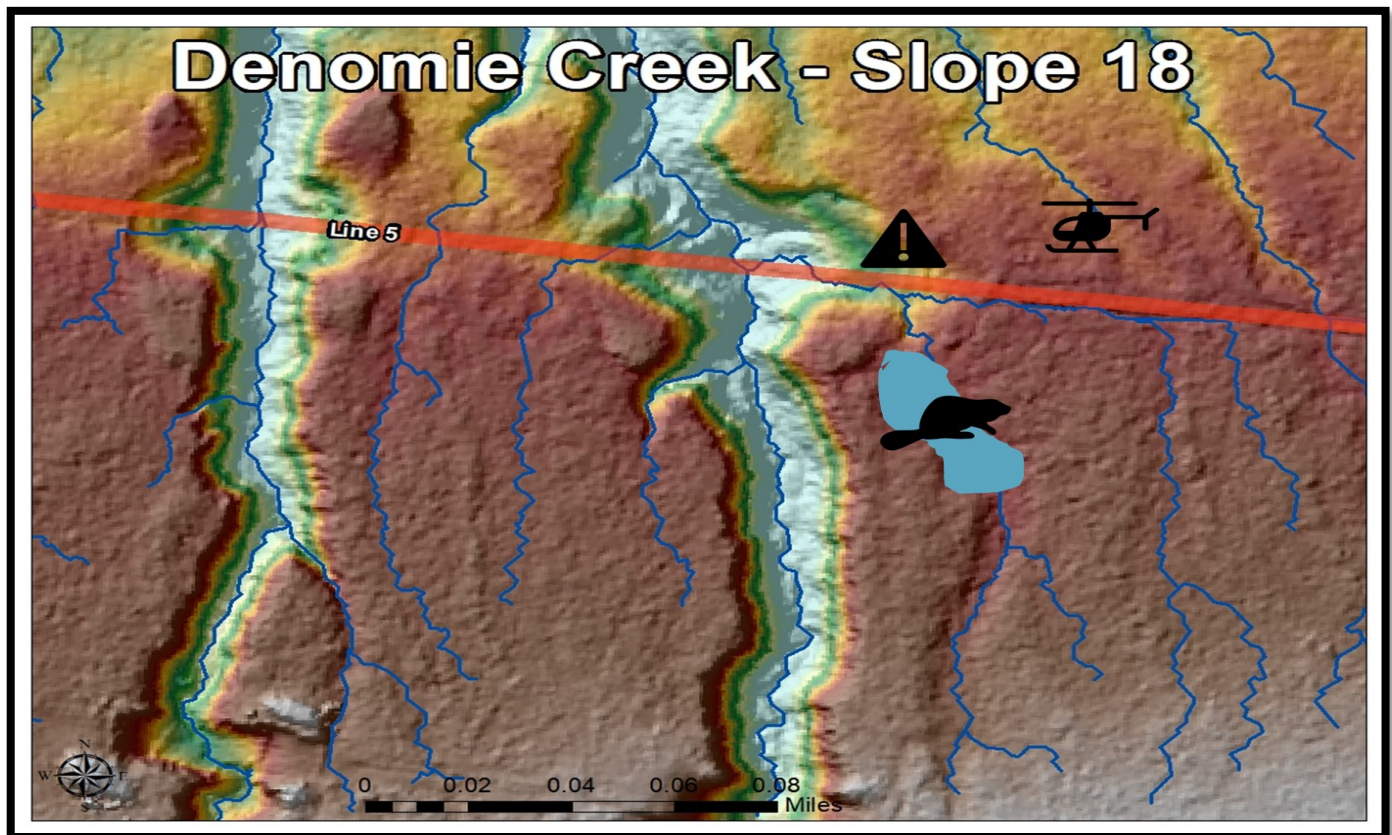
proved phase 2 work with the requirement that Enbridge reconnect sections of two intermittent tributaries (streams that have seasonal flow) that were disconnected when the pipeline was installed in 1953. Reconnecting, or restoring, these streams will reduce water flow through the exposure site and increase the ecological integrity of the area. (For example high quality wildlife habitat)




Line 5 exposure impacts wildlife. Photo captured by MNRD, 10/12/19



Line 5 exposure within the Denomie Creek subwatershed. Photo was taken after sandbags installed taken facing west or "upstream" of product flow through the pipeline. (MNRD, 10/31/19)



Map showing existing hydrology at Denomie Creek Tributary. Where Line 5 is currently exposed (indicated by ) and where the pipeline installation in 1953 cut off tributaries to the east.

Enbridge Anomaly Digs (#3)

In July 2019, Enbridge conducted two digs in order to inspect and repair two sections of pipeline. The digs were located 900 feet apart; one of the dig worksites was located adjacent to Sugarbush Creek and within the Bad River floodplain just ½ mile from the Bad River meander (right) and the second was located just upslope of the floodplain. In addition to the impacts associated with the digs themselves, there were substantial impacts related to accessing the dig locations which were located approximately 3 miles west of Pine Flats Road. The digs were completed at the end of August 2019.



Worksite for the Line 5 Anomaly Dig located within the Bad River floodplain. Photo taken after pipeline was exposed, repaired, and initial site restoration completed. (MNRD, 8/20/19)

Line 5 Odor Investigation (#3)

In September 2019, MNRD staff detected a suspicious odor at one of the dig locations while observing Enbridge contractors completing routine stormwater inspections. As a result of the unnatural odor being detected on multiple days, Enbridge temporarily shut down Line 5, the Tribe issued a public safety notice, and MNRD began an investigation into the source of the odor in coordination with the US Environmental Protection Agency. Unfortunately, Enbridge restarted Line 5 against the wishes of the Tribe, prior to having a clear answer about whether a leak was the source of the odor. However, at the behest of the Tribe, Enbridge did hire contractors to complete sampling of air, soil, and other material



Soil gas detectors set up at 6 locations by Enbridge contractors. (MNRD 9/25/19)



at the site of the odor. The sampling revealed that an unknown substance made up of acetone, dichlorodifluoromethane, methylene chloride, trichlorofluoromethane, naphthalene, and other volatile organic compounds was present at

the site. While none of the sampling completed detected compounds that would be indicative of a leak of crude oil or natural gas liquids from the pipeline, the Tribe is still concerned with the ramifications of the contamination from the unknown substance that was detected in relation to groundwater contamination and safe use of the site. MNRD is exploring whether additional sampling after snowmelt in 2020 will be necessary to determine if the site is safe.

PUBLIC SAFETY NOTICE

CONTINUED INVESTIGATION ALONG THE ENBRIDGE LINE 5 CORRIDOR WITHIN THE BAD RIVER RESERVATION

For your personal safety, please be aware of the following:

- Bad River Tribe has concerns about odors detected near one of Enbridge's pipeline anomaly dig locations west of Pine Flats Road.
- The odors detected may be associated with anomaly dig work on Line 5 completed by Enbridge but so far sampling results do not indicate a leak of the pipeline itself. A copy of the sampling results is available for viewing in the Mashkiiziibii Natural Resources Dept.
- The Tribe recommends the general public avoid the Line 5 area west of Pine Flats Road near Sugarbush Creek.
- The Public Safety Notice will be active until we can verify the site is safe, which may require additional sampling in 2020.
- If you *must* be in the area:
 - **DO NOT SMOKE**, some of the chemicals detected are combustible and remaining concentrations are unknown.
 - **Leave immediately** if you detect any unusual odors (the exact odor may be interpreted differently by different people) or signs of a leak (see Report any sign of a leak next).
 - Report any signs of a leak (haze, hissing noises, dead animals/vegetation, odors, etc.) to the National Response Center at 1-800-424-8802 and Enbridge at 1-800-858-5253.

For more information, contact the Mashkiiziibii Natural Resources Department at 715-682-7123 REVISED 11/15/19



Public Safety Notice posted to Bad River Community 11/15/19

ENBRIDGE HAS HAD TWO HELICOPTER INCIDENTS SINCE OCTOBER 2018

Bioremediation of Enbridge Helicopter Crash Site (#5)

In October 2018 an Enbridge helicopter crashed in a remote, forested area within the Denomie Creek subwatershed during an aerial patrol of Line 5. (Although required, Enbridge provided no notice of this patrol to MNRD.) Tragically, the crash killed the pilot of the helicopter. The crash also damaged trees and other plants in the area and spread jet fuel and other toxic substances. As a result, MNRD required that Enbridge conduct bioremediation of the affected soils, install monitoring wells, and conduct routine site inspections and sampling until the area is remediated to tribal clean-up standards. This work began in the winter of 2019 and is ongoing. This site is located just north of the Line 5 pipeline corridor.

Top 3 Photos of damage done by helicopter crash (MNRD, 11/5/18)



Bioremediation was conducted at the helicopter crash site to deal with hazardous substances such as jet fuel that contaminated soils. Monitoring will continue in 2020 to ensure the site has been restored. (MNRD, 8/19/19)

Additional Information is available at: >>> http://www.badriver-nsn.gov/wp-content/uploads/2019/12/2019_Spring_CommonGround.pdf

Site Restoration of Second Helicopter Incident (#1)

On July 20th, 2019 an Enbridge helicopter accidentally released a load of 6 large poly mats (weighing 7000 pounds) that were being transported to an anomaly dig worksite east of the Bad River. The mats crashed to the ground in a remote area of the Reservation west of Government Road damaging trees and churning up soils. As of February 2020, Enbridge has yet to remove the mats or restore the area.



Damages done from 7/20/19 incident (MNRD 7/22/19)



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